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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,873	03/08/2004	Nathan Moyal	5087-080	2674

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EXAMINER	
NGUYEN, MINH T	

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/796,873	MOYAL ET AL.	
	Examiner	Art Unit	
	Minh Nguyen	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/21/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification does not describe which elements and structure corresponding to the terms "first means", "second means" and "third means" recited in claim 12.

Claim Objections

2. Claims 3 and 5 are objected to because of the following informalities:

In claim 3, line 10, "logic" should be changed to -- a logic circuit".

In claim 5, line 1, "1" should be changed to -- 2 --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 5, 7, 9, 11-13 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 2, the phrase "can be" recited on line 4 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

As per claim 12, the phrase "can be" recited on line 3 renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). The claim is further rejected as being indefinite due to the lack of clear antecedent basis in the specification for the terms "first means", "second means" and "third means" discussed herein above.

As per claims 11 and 15, the same problem exists in each of these claims as discussed in claim 2.

As per claims 5, 7, 9, 13 and 16-17, these claims are rejected because of the indefiniteness of independent claim 2 or 12.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 8-12 and 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,389,898, issued to Taketoshi et al.

As per claim 1, Taketoshi discloses a phase locked loop PLL (figure 1) system including a phase frequency detector (PFD 1),

a filter (filter 2), a variable frequency oscillator (VFO 3), and

a feedback loop including a frequency divider (divider 7), the PLL operating over a frequency range that includes a number of frequency sub-ranges (figure 5, also see column 6, lines 6-7, i.e., variable ranges),

said VFO having a variable gain profile (as shown, the gain profile can be changed by MUX 4), the gain profile of said VFO being controlled by a gain control logic (the counter 5 and the shifter register 6) which sets the gain profile of said VFO (using MUX 4 to select either VCO1 or VCO2 or VCO3) so that the gain of the VFO remains within a desired range as the operation of said PLL moves between said frequency sub-ranges (column 6, lines 27-32).

As per claim 2, this claim is merely a method to operate a PLL having the structure discussed in claim. Since Taketoshi teaches the circuit, he inherently teaches the method to operate.

As per claim 3, this claim is rejected for the same reasons noted in claim 1.

As per claims 8-9, the frequency range of the PLL shown in figure 1 of Taketoshi has three sub-ranges.

As per claims 10-12, 15, these claims are rejected for the same reasons noted in claim 1.

As per claim 16, the recited gain control logic reads on the shift register 6.

As per claim 17, the recited limitation is met as disclosed in column 6, line 29.

As per claims 18-19, these claims are rejected for the same reasons noted in claim 1.

As per claim 20, as shown in figure 1, Taketoshi's VFO is a VCO.

5. Claims 1-3, 10-12, 15-16 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent No. 5,686,864, issued to Martin et al.

As per claim 1, Martin discloses a phase locked loop PLL (figure 5) system including

a phase frequency detector (PFD 104),

a filter (filter 110), a variable frequency oscillator (VFO 502), and

a feedback loop including a frequency divider (divider 106), the PLL operating over a frequency range that includes a number of frequency sub-ranges (see the abstract),

said VFO having a variable gain profile (figure 6, the gain profile can be changed by signals SEL1, SEL2, SEL3, ...), the gain profile of said VFO being controlled by a gain control logic (the control circuit 114) which sets the gain profile of said VFO so that the gain of the VFO remains within a desired range as the operation of said PLL moves between said frequency sub-ranges (this is the purpose of changing from one range to another).

As per claim 2, this claim is merely a method to operate a PLL having the structure discussed in claim. Since Martin teaches the circuit, he inherently teaches the method to operate.

As per claim 3, this claim is rejected for the same reasons noted in claim 1.

As per claims 10-12, 15, these claims are rejected for the same reasons noted in claim 1.

As per claim 16, the recited gain control logic reads on the control circuit 114.

As per claims 18-19, these claims are rejected for the same reasons noted in claim 1.

As per claim 20, as shown in figure 5, Martin's VFO is a VCO.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-7 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,389,898, issued to Taketoshi et al.

As per claim 4, Taketoshi discloses a PLL having the structure as discussed in claim 1 wherein the PLL is operable over a wide frequency range (see abstract) but he does not explicitly disclose the range is from 2.4 Ghz to 2.48 Ghz as called for in the claim.

However, as held by the court, when a general condition is met, varying the range is not patentable. In this instant case, Taketoshi's PLL has the same structure and operable over a wide frequency range, setting this range to a particular range is well within the level of one having average skill in the art.

It would have been obvious to one skilled in the art at the time of the invention was made to set the frequency range of the Taketoshi's PLL to be available from 2.4 Ghz to 2.48 Ghz. The motivation and/or suggestion would be to enable the Taketoshi's PLL to be used in an application which requires such a specific range.

As per claims 5-7, these claims are rejected for the same reason and motivation discussed in claim 4.

As per claims 13-14, these claims are rejected for the same reason and motivation discussed in claim 4.

7. Claims 4-9, 13-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5,686,864, issued to Martin et al.

As per claim 4, Martin discloses a PLL having the structure as discussed in claim 1 wherein the PLL is operable over a wide frequency range (see abstract) but he does not explicitly disclose the range is from 2.4 Ghz to 2.48 Ghz as called for in the claim.

However, as held by the court, when a general condition is met, varying the range is not patentable. In this instant case, Martin's PLL has the same structure and operable over a wide frequency range, setting this range to a particular range is well within the level of one having average skill in the art.

It would have been obvious to one skilled in the art at the time of the invention was made to set the frequency range of the Martin's PLL to be available from 2.4 Ghz to 2.48 Ghz. The motivation and/or suggestion would be to enable the Martin's PLL to be used in an application which requires such a specific range.

As per claims 5-9, these claims are rejected for the same reason and motivation discussed in claim 4.

As per claims 13-14 and 17, these claims are rejected for the same reason and motivation discussed in claim 4.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Nguyen whose telephone number is **571-272-1748**. The examiner can normally be reached on Monday, Tuesday, Thursday, Friday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

5/13/05

Minh Nguyen
Primary Examiner
Art Unit 2816